

INSTRUCTIONS FOR 2014 STATE AGENCY LAND INFORMATION INTEGRATION REPORTS

OVERVIEW

Eleven State Agencies are required to annually submit land information (geographic information) reports to the Department of Administration (DOA). These reports—formerly called “plans”—are intended to enable such information to be readily translatable, retrievable, and geographically referenced for use by any federal, state, or local governmental unit or public utility.

All state agencies using geographic information systems/land information systems (GIS/LIS) are encouraged to submit a land information report. This year the reports will have two parts, taking the form of an inventory and sharing of state agency metadata. In Part 1, you will be asked to provide information about your data and resources in a Microsoft Excel spreadsheet. In Part 2, all stewards of geospatial data are asked to submit basic metadata.

- Part **1** Excel Inventory
- Part **2** Submit Metadata

PURVIEW OF THESE INSTRUCTIONS

Wis. Stats. Section 16.967(1) (b), defines “land information” as:

[A]ny physical, legal, economic or environmental information or characteristics concerning land, water, groundwater, subsurface resources or air in this state. “Land information” includes information relating to topography, soil, soil erosion, geology, minerals, vegetation, land cover, wildlife, associated natural resources, land ownership, land use, land use controls and restrictions, jurisdictional boundaries, tax assessment, land value, land survey records and references, geodetic control networks, aerial photographs, maps, planimetric data, remote sensing data, historic and prehistoric sites and economic projections.

Agencies covered by these instructions are named in Wis. Stats. Sec. 16.967(6):

By March 31 of each year, the department of administration, the department of agriculture, trade and consumer protection, the department of safety and professional services, the department of health services, the department of natural resources, the department of tourism, the department of revenue, the department of transportation, the board of regents of the University of Wisconsin System, the public service commission, and the board of curators of the historical society shall each submit to the department a plan to integrate land information to enable such information to be readily translatable, retrievable, and geographically referenced for use by any state, local governmental unit, or public utility. Upon receipt of this information, the department shall integrate the information to enable the information to be used to meet land information data needs. The integrated information shall be readily translatable, retrievable, and geographically referenced to enable members of the public to use the information.

Several additional agencies, though not required to complete this plan, collect or create geospatial data, including the following: Departments of Children and Families, Workforce Development, Public Instruction, Military Affairs, Justice, Corrections, the Board of Commissioners of Public Lands, Government Accountability Board, and the Wisconsin Housing & Economic Development Authority. Additional organizations using GIS are also encouraged to participate, such as the Legislative Technology Service Bureau and the State Fair Park.

OBJECTIVES OF LAND INFORMATION INTEGRATION REPORTS

Statutory Objectives From Wis. Stats. Sec. 16.967

- *For Agencies* – Enable agency land information to be readily translatable, retrievable, and geographically referenced for use by any state, local governmental unit, or public utility
- *For DOA* – Integrate the information to enable the information to be used to meet land information data needs. The integrated information shall be readily translatable, retrievable, and geographically referenced to enable members of the public to use the information
- *From 16.967 (b)* – Maintain and distribute an inventory of land information available for this state, land records available for this state, and land information systems

Additional Objectives for DOA

- Update state agency inventories of land information systems
- Categorize all state agency land information framework data layers by standardized ISO categories
- Document a steward and contact for all state agency land information resource holdings
- Determine which state agency land information data and resources have access constraints
- Collect existing state agency land information metadata
- Assess the current state of completeness for state agency land information metadata
- Plan for state agency stewards to update and share land information metadata in the future
- Inform DET FY 2014-15 Strategic initiative planning to establish an Enterprise GIS Portal

CONTACT

Contact Curtis Pulford or Lee Samson at the GIO with any questions.

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Part 1 of the Agency Land Information Integration Reports involves populating two spreadsheet pages in an Excel workbook.

SHEET 1 – DATA

FORM SUBMITTER INFORMATION
DATA INVENTORY

SHEET 2 – TECH SERVICES

TECHNOLOGY USE – *to be filled out by agency GIS coordinator only*
MAP, FEATURE, DATA, AND APPLICATION SERVICES

SHEET 3 – CATEGORIES (Reference)

The instructions below provide complete descriptions of each section and input choices.

SHEET 1 – DATA

FORM SUBMITTER INFORMATION

To be completed once for each agency representative providing data and service information

- I. **Agency – (Dropdown List)** If your agency is not listed, select the last item “Other - Specify.” To specify, type your agency name in the last column under “Additional information relevant to enterprise integration.”
- II. **Submitter’s e-Mail – (Text)** Enter your business email address.
- III. **First Name – (Text)**
- IV. **Last Name – (Text)**

DATA INVENTORY

The number of items (rows) in this section is directly related to the number of agency data layers.

- I. **Spatial Data Layer File Name – (Text)** For those using ESRI SDE this would be the feature class name, unique in a geodatabase. Your attention to correctness and case sensitivity is appreciated. Provide the name only, not the full directory path.
 - *E.g., DATCP_Import_Feedlot*
- II. **Title and/or Short Description – (Text; Optional)** Title is a commonly understood name for the Layer File Name above. In cases where the Layer File Name is cryptic, this will be important to discovery. Title is often in the ArcCatalog Resource Citation under Item Description. Short Description is Abstract information.
 - **Title** e.g., *DATCP_Import_Feedlot* (In this case, same as Layer File Name)
 - **Short Description** e.g., *Licensed livestock import lots where livestock imported into Wisconsin under specific conditions are temporarily kept for quarantine/inspection*

- III. **ISO Category** – *(Dropdown List)* Category names, descriptions, and examples can be referenced from the Categories Tab, sheet 3 or page 6 of these instructions.
- IV. **Additional Tags** – *(Text)* See the Categories tab, sheet 3, for examples related to each category, or page 6 of these instructions. You are *not* limited to the tags listed. Wisconsin and your agency name are assumed unless a different region/source is cited in this cell.
- V. **Update Frequency** – *(Dropdown List)* Select the nearest current or expected update frequency which this data layer should be known for.
- VI. **Publicly Available?** *(Dropdown List)*

Choices and Descriptions:

Agency use only	Generally not shared outside the agency
External w/agreement	Publicly shared pending some form of agreement/MOU
G2G w/MOU	Government to Government sharing pending agreement/MOU
Gov-2-Gov	Government to Government sharing, no special agreement needed
Unlimited	Freely open for public use

- VII. **Metadata Available for Export?** – *(Dropdown List)* Please indicate whether you will be able to provide basic metadata about this layer now, or if further work and time is required. Basic metadata, as defined in Part 2 of these instructions, includes:
- Title/Citation Information
 - Bounding Box
 - Data Dictionary (data fields)
 - Publication Date

Choices and Descriptions:

Available Now	a basic metadata extract can be created/delivered with this workbook
Available in June	a basic metadata extract can be created/delivered by June 30, 2014
Not ready	a basic metadata extract cannot be delivered by June 30, 2014

- VIII. **Date metadata will be available?** – *(Calendar; Optional–If previous answer = Not ready; Valid answers 7/1/2014 to 12/31/2015)* Projected date that your agency will be able to provide a basic metadata extract. Enter as mm/dd/yyyy format. The GIO will follow-up with you on the date you supply. Exceptions should be explained in the last column under “Additional information” or in Part 2 of these instructions, item #4.
- IX. **Metadata Naming** – *(Text; Optional)* This is the name of your metadata file, *if* metadata export has a name different from the Layer File Name identified in the first column or an format/extension other than XML. Again, your attention to correctness and case sensitivity is appreciated.
- X. **Spreadsheet submitter is primary steward for this layer?** – *(Dropdown List)* At least one agency person needs to be identified as initial point of contact for layers maintained and distributed by the agency. If you are not the PoC, select “no” and provide appropriate optional contact information.
- XI. **Additional Contacts** – *(Text)* (Optional) If spreadsheet submitter is point of contact, this section may be skipped. At least one agency person must be identified as initial point of contact for layers maintained and distributed by the agency. For some layers, as needed, a business area, second, or third contact can be provided here.

SHEET 2 – TECH SERVICES

TECHNOLOGY USE – this section needs to be filled out only once, *by the organization's GIS coordinator*

- I. **Desktop GIS** – (*Dropdown List*) Indicate the most commonly used Desktop GIS product/version within the organization. Noteworthy use of other products/versions, can be added in the Non-Typical column (far right).
- II. **Server GIS** – (*Dropdown List*) Indicate the most commonly used GIS Server product/version within the agency. Noteworthy use of other products/versions, can be added in the Non-Typical column.
- III. **DBMS** – (*Dropdown List*) Indicate the most commonly used DBMS within the agency. Noteworthy use of additional products can be added in the Non-Typical column.
- IV. **Development Environments** – (*Dropdown List*) Indicate the most commonly used GIS development product within the agency. Noteworthy use of other products can be added in the Non-Typical column.
- V. **GeoCoder** – (*Dropdown List*) Indicate if there is a most commonly used premium Geocoding service product within the agency. Premium Geocoders are defined as pay services which have more current locator information and do not impose limits on the number of submitted records.
- VI. **Cloud GIS Utilities** – (*Dropdown List*) Indicate if your agency uses, or has approved planning to implement any of the following Cloud services within the next 12 months.
- VII. **Non-typical GIS** – (*Text*) For any products and versions, significant within your agency, that were not selected or included in the previous dropdowns.

MAP, FEATURE, DATA AND APPLICATION SERVICES

This section should be used to document *public-facing* Web Mapping, Web Feature, Repository, and Application services. For this inventory we are only concerned with *public-facing* Web applications that provide access to downloadable data or data services, not those for internal business mapping.

- I. **Service Name** – (*Text*) The common name of the service. Not the path or URL.
- II. **Type** – (*Dropdown List*)
Choices and Descriptions:

Repository	Portals, FTP sites, SharePoint, or any location where server access is provided for agency spatial data holdings
WMS	Standard protocol for serving georeferenced map images generated by a map server
WFS	Allows requests for geographical features across the web using platform-independent calls
Application	Public Web applications which provide access to downloadable data or data services
- III. **Description** – (*Text*) (optional) When Service Name and Part 2 metadata would not be sufficient for full understanding outside the agency.
- IV. **URL** – (*Text*) The address other agencies or externals would use to discover the service.

SHEET 3 – CATEGORIES (Reference)

Name	Code	Description	Possible Tags
farming	001	rearing of animals and/or cultivation of plants	agriculture, irrigation, aquaculture, plantations, herding, pests and diseases affecting crops and livestock
biota	002	flora and/or fauna in natural environment	wildlife, vegetation, biological sciences, ecology, wilderness, sea life, wetlands, habitat, biological resources
boundaries	003	legal land descriptions	political and administrative boundaries, governmental units, marine boundaries, voting districts, school districts, international boundaries
climatology, meteorology, atmosphere	004	processes and phenomena of the atmosphere	cloud cover, weather, climate, atmospheric conditions, climate change, precipitation
economy	005	economic activities, conditions and employment	production, labour, revenue, business, commerce, industry, tourism and ecotourism, forestry, fisheries, commercial or subsistence hunting, exploration and exploitation of resources such as minerals, oil and gas
elevation	006	height above or below sea level	altitude, bathymetry, digital elevation models, slope, derived products, DEMs, TINs
environment	007	environmental resources, protection and conservation	environmental pollution, waste storage and treatment, environmental impact assessment, monitoring environmental risk, nature reserves, landscape, water quality, air quality, environmental modeling
geoscientific information	008	information pertaining to earth sciences	geophysical features and processes, geology, minerals, sciences dealing with the composition, structure and origin of the earth's rocks, risks of earthquakes, volcanic activity, landslides, gravity information, soils, permafrost, hydrogeology, groundwater, erosion
health	009	health, health services, human ecology, and safety	disease and illness, factors affecting health, hygiene, substance abuse, mental and physical health, health services, health care providers, public health
imagery, base maps, earth cover	010	base maps	land/earth cover, topographic maps, imagery, unclassified images, annotations, digital ortho imagery
intelligence, military	011	military bases, structures, activities	barracks, training grounds, military transportation, information collection
inland waters	012	inland water features, drainage systems and characteristics	rivers and glaciers, salt lakes, water utilization plans, dams, currents, floods and flood hazards, water quality, hydrographic charts, watersheds, wetlands, hydrography
location	013	positional information and services	addresses, geodetic networks, geodetic control points, postal zones and services, place names, geographic names
oceans	014	features and characteristics of salt water bodies (excluding inland waters)	tides, tidal waves, coastal information, reefs, maritime, outer continental shelf submerged lands, shoreline
planning cadastre	015	information used for appropriate actions for future use of the land	land use maps, zoning maps, cadastral surveys, land ownership, parcels, easements, tax maps, federal land ownership status, public land conveyance records
society	016	characteristics of society and culture	settlements, housing, anthropology, archaeology, education, traditional beliefs, manners and customs, demographic data, tourism, recreational areas and activities, parks, recreational trails, historical sites, cultural resources, social impact assessments, crime and justice, law enforcement, census information, immigration, ethnicity
structure	017	man-made construction	buildings, museums, churches, factories, housing, monuments, shops, towers, building footprints, architectural and structural plans
transportation	018	means and aids for conveying persons and/or goods	roads, airports/airstrips, shipping routes, tunnels nautical charts, vehicle or vessel location, aeronautical charts, railways
utilities, communication	019	energy, water and waste systems and communications infrastructure and services	hydroelectricity, geothermal, solar and nuclear sources of energy, water purification and distribution, sewage collection and disposal, electricity and gas distribution, data communication, telecommunication, radio, communication networks

SUBMITTING XML METADATA

Metadata is necessary to the discovery of your spatial data resources. In Part 2 we ask for a basic metadata submittal with the answers in the Part 1 spreadsheet to provide the full complement of meta-information needed to make intelligent decisions about previously unknown information.

While an XML export of metadata is the preferred content type, and used for instruction purposes below, we recognize that such an export process might present a challenge for those organizations documenting numerous data sets. Please contact the Geographic Information Office if you have a pre-existing metadata format you would prefer to share, or if you have other challenges regarding metadata export and submittal.

PROCEDURES

1. Export metadata for each data layer in XML format.

- At a minimum, the following basic metadata is needed. Any additional metadata content for layers is acceptable, useful and appreciated.

Basic Metadata

Title/Citation Information *(Optional)*

Bounding Box (Coordinates) – the limits of coverage of a data set expressed by latitude and longitude values in the order:

- Western most,
- Eastern most,
- Northern most, and
- Southern most

Data Dictionary (data fields) (Entity and Attribute Information) – details about the information content of the data set, including the entity types, their attributes, and the domains from which attribute values may be assigned. Include when possible.

Publication Date – date when the data set was published or otherwise made available for release

- Metadata in FGDC CSGDM or ISO protocol is preferred. The Dublin Core protocol be integrated with our processes with an additional translation step at GIO.
- Submitters might want to examine, and possibly edit, their metadata prior to submission. Metadata might have information that is agency-specific, sensitive, and/or inaccurate regarding dates/updates. Editing of XML can be done in ArcCatalog for ESRI users or any text editor.

For the majority of state agency stewards, using ESRI products, follow these steps to export metadata:

- In ArcMap or ArcCatalog go to ArcToolBox » Conversion Tools » Metadata » Export Metadata.
- Select a metadata format translation. We recommend the “**ARCGIS2FGDC.xml**” translator. Export fields should look like the following example:
 - Source – c:\data\data.gdb\ourfile_features
 - Translator – c:\program files (x86)\arcgis\desktop10.2\metadata\translator\arcgis2fgdc.xml
 - Output – c:\temp\ourfile.xml

2. Compress the XML metadata files into ZIP format. Name your zip file according to the naming scheme: *DOA_DET_metadata.zip*

- Where *DOA* represents the submitting agency
- Where *DET* (optional, as needed) represents a division or sub-unit. This is important for those organizations submitting metadata from separate locations.
- Each metadata XML file should have a name that correlates somehow with the data it describes. The default often includes the file name (which you provided in Part 1, under either the Spatial Data Layer File Name or in the Metadata Naming column). If, for any reason, your metadata naming is not easily interpreted, please explain the data set relations in a separate text document.

3. Provide your metadata package to DOA.

- Files under 15 MB may be emailed to curtis.pulford@wisconsin.gov. For files larger than 15 MB:
 - The GIO can be notified by email if the ZIP file is made available on your organizations file transfer service (e.g., FTP, SharePoint, etc.)
 - DVD or CD can be produced and mailed via Inter-Departmental Mail to the GIO
 - Authentication can be granted to a Web folder managed by the GIO

4. Optional: Provide feedback on this inventory.

- The GIO would appreciate feedback on this inventory so it can be improved in the future. You are encouraged to provide comments, especially regarding challenges associated with the metadata creation, editing, or export process, via email to curtis.pulford@wisconsin.gov. We appreciate your commitment to ensuring the Land Information Reports yield a useful product.